

**PATENT COOPERATION TREATY**  
**PCT**  
**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**  
**(PCT Article 36 and Rule 70)**

REC'D 07 JUL 2004

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Applicant's or agent's file reference	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/12220	International filing date (day/month/year) 03.11.2003	Priority date (day/month/year) 11.12.2002
International Patent Classification (IPC) or both national classification and IPC A61K7/075		
Applicant UNILEVER PLC et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I  Basis of the opinion
- II  Priority
- III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand  26.04.2004	Date of completion of this report  06.07.2004
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Donovan-Beermann, T Telephone No. +49 89 2399-8213



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/EP 03/12220

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-28                   as originally filed

**Claims, Numbers**

1-14                   as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description,       pages:
- the claims,           Nos.:
- the drawings,       sheets:

5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

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**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes:	Claims	1-14
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-14
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-14
	No:	Claims	

**2. Citations and explanations**

**see separate sheet**

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EXAMINATION REPORT - SEPARATE SHEET**

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**Ad Section V:**

The present application relates to an aqueous hair conditioning composition comprising:

- a) 1-50% by weight of a cleansing surfactant
- b) discrete, dispersed droplets comprising a water insoluble silicone conditioning oil, wherein the Sauter mean diameter of the droplets ( $D_{3,2}$ ) is from 2 to 100 micrometres and
- c) a surface active block copolymer of formula (I):



wherein m is 30 or more, n is 5 or more, and the ratio n/m is from 0.1 to 1.2.

Methods for preparing the compositions, use of the compositions for cleaning and conditioning hair, method for cleaning and conditioning hair and the use of the composition for improving the deposition of silicone conditioning oil onto the tip region of hair are also claimed.

The following documents are considered relevant:

- D1: WO 03 094874 A (DERICI LEO ;SHAW NEIL SCOTT (GB); UNILEVER PLC (GB); JENKINS PAUL) 20 November 2003 (2003-11-20)
- D2: US-A-5 965 115 (BOLICH JR RAYMOND EDWARD ET AL) 12 October 1999 (1999-10-12)
- D3: J.YANG, G.WEGNER & R.KONIGSFELD: 'Phase behavior of ethylene oxide-dimethylsiloxane PEO-PDMS-PEO triblock copolymers with water' COLLOID AND POLYMER SCIENCE, vol. 270, 1992, pages 1080-1084, XP009025449 cited in the application

D1 (published after the filing date of the present application) discloses similar compositions, but where the surface active block copolymer c) is a polyethylene oxide/polypropylene oxide block copolymer.

D2 discloses polyorganosiloxane/surfactant emulsions stabilised by silicone-linear polyoxyalkylene block copolymer surfactant, useful in hairsprays, antiperspirants,

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aftershave etc.

D3 shows how to prepare the copolymers c) of the present application.

The subject matter of the present claims is thus novel (Art.33(2) PCT).

The applicant has shown that the size of the polyoxyethylene blocks in the polymer c) are critical in their function. Thus inventive step can be acknowledged (Art.33(3) PCT).